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ANALYSIS OF GESTATIONAL BEHAVIOUR OF TEENAGERS

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SUMMARY

A total of 273 teenager pregnancies of 15-19 years of age were studied at Command Hospital, Pune during the year January 1980 to December 1982. An attempt was made to ascertain the different risk factors associated with teenager Pregnancies.

The incidence of teenage pregnancies was found to be 7.6% and 54.1% of them were primipara and only 1.8% constituted grandmulti-para. Fortysix percent of the adolescent mother exhibited some abnormality either in pregnancy or in labour. Pregnancy-induced hypertension was found to be the most frequent complication (10.2%) during antepartum period while Dysfunctional labour was commonest (11.7%) during the intrapartum period. However, incidences of anaemia, cephalopelvic disproportion, premature labour and perinatal mortality were no different from the general population. But the incidence of operative delivery was higher than normal (23.8%).

To conclude, the adequate prenatal care received by the teenagers in the present series showed a significant achievement on the maternal and perinatal outcome.

Introduction

Teenage women have twice the risk of complications during pregnancy and delivery as women in their twenties. Adolescence is normally a period of high nutritional needs due to the rapid growth and development of growing body and may rapidly deplete already limited resources.

Due to biologic immaturity of the adolescent, the body is often ill prepared to sustain a pregnancy and provide safe delivery for the infant.

Adolescent pregnancy has been incriminated with an increased incidence of both obstetric and social complications that lead to high infant and maternal mortality as well as morbidity. Research to identify risk factors in the pregnant adolescent have shown an increased risk

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of anaemia, pregnancy induced hypertension, premature delivery, still birth, cephalopelvic disproportion and operative deliveries (Rivlin et al 1978), whereas the Rochester adolescent maternity project has found no significant increase in high risk factors in such women (Macnarney 1978).

The present study was undertaken to ascertain the different risk factors incriminated with teenager pregnancies.

Material and Methods

The material for this study comprised of 273 civilian pregnant women from 15 to 19 years age out of a total of 3590 civilian pregnant women of different age and parity from the period January 1980 to December 1982 at Command Hospital attached to Armed Forces Medical College, Pune. This formed an incidence of 7.6% of teenager pregnancy.

At the initial visit complete details of previous obstetric history if any, and the outcome of each pregnancy with result to the mother and baby were noted. This was followed by a detailed physical examination including general, systemic, obstetrical and per vaginal examination. Routine examination like haemoglobin %, urine routine and microscopic, blood for ABO and Rh grouping and serological test for

syphilis were done. Haemoglobin and urine examinations were repeated every fortnight. Other special investigations were carried out whenever indicated. All patients were followed up carefully till delivery. Pelvic assessment was carried out in all primigravidae at 37 weeks of gestation and X-ray pelvimetry was done whenever indicated.

Observations

There were a total of 273 Teenager Pregnancies out of a total of 3590 pregnancies with different age and parity. Two hundred and nine (76.6%) of them were booked and 126 (46.2%) teenagers behaved abnormally either in pregnancy or in labour.

TABLE - I
DISTRIBUTION OF AGE GROUPS

Age (Years)	No. of cases	Percentage
Below 15 years	Nil	Nil
15 years	1	0.4
16 years	20	7.4
17 years	41	15.2
18 years	111	40.6
19 years	100	36.6

The above table shows the age wise number of cases and their incidences. Maximum number of cases, 211 (77.2%)

TABLE - II
DISTRIBUTION OF PARITY WITH AGE

Age	Para I		Para II		Para III		Para IV		Para V	
	No.	PC	No.	PC	No.	PC	No.	PC	No.	PC
15 years	1	0.4	—	—	—	—	—	—	—	—
16 years	14	5.1	6	2.2	—	—	—	—	—	—
17 years	31	11.3	8	2.9	2	0.73	—	—	—	—
18 years	52	19.0	38	13.9	10	3.60	6	2.2	5	1.8
19 years	50	18.3	34	12.4	15	5.50	1	0.4	—	—
Total	148	54.1	86	31.4	27	9.83	7	2.6	5	1.8

were from 18 and 19 years age while the rest were from 15-17 years of age group. There was no case below 15 years of age.

Maximum number of cases, 148 (54.1%) were primiparae while 125 (45.9%) cases were multiparae. There were 5 (1.8%) cases of grandmultiparae and all of them belonged to 18 years of age group.

TABLE - III
ANALYSIS OF ANTEPARTUM
COMPLICATIONS

Complication	No*	Percentage
Malposition (OP)	7	2.6
Malpresentation Breech 6 Oblique 1	7	2.6
Hypertensive disorders with pregnancy	34	12.5
Heart disease with preg. (Rheumatic)	2	0.73
Rh Negative (non immunized) pregnancy	4	1.5
Diabetes with pregnancy	2	0.73
IUGR	10	3.6
Anaemia with Preg. mild - 20 mod - 3	23	8.4
Cervical incompetence	1	0.4
Venereal disease with Preg. Syphilis - 2 Condyloma acuminatum	3	1.1
	1	

*Some case had more than one complications

The above table shows various forms of antepartum complications in teenage women. Maximum cases, 34 (12.5%) had hypertensive disorders with pregnancy followed by anaemia in 23 (8.4%) and intrauterine growth retardation in 10 (3.6%) cases. Fourteen (5.2%) cases presented with malpositions and malpresentations at term and 3 (1.1%) cases had sexually transmitted disease.

TABLE - IV
ANALYSIS OF HYPERTENSIVE
DISORDERS WITH PREGNANCY

Diagnosis	No	Percentage
PIH	26	9.50
Essential hypertension	5	1.80
Eclampsia	2	0.73
Renal hypertension	1	0.4

Above table shows the break up of hypertensive complications of pregnancy. Twenty eight (10.2%) cases suffered from pregnancy induced hypertension and two (0.73%) of them had eclampsia. Both these cases of Eclampsia were unbooked cases.

Essential hypertension observed in 5 (1.8%) cases only and renal hypertension in one.

TABLE - V
ANALYSIS OF INTRAPARTUM
COMPLICATIONS

Complications	No.*	Percentage
Uterine dysfunction	32	11.7
Premature labour	11	4.0
Premature rupture of memb	3	1.1
Post partum haemorrhage	4	1.5
Atonic - 1 Traumatic - 3		
Congenital malformations	2	0.73
Still birth	6	2.2
True Knot of Umb cord	1	0.4

*Some cases had more than one complications.

Intrapartum complications showed a maximum incidence of dysfunctional labour in 32 (11.7%) cases while premature labour in 11 (4.0%) and premature rupture of membrane in 3 (1.1%) cases only. Post partum haemorrhage were observed in 4 (1.5%) cases and mostly were traumatic from cervical tears. There were 6 (2.2%) cases of still birth and two of

them were from Eclampsia cases.

TABLE - VI

ANALYSIS OF OPERATIVE DELIVERIES

Operation	No.	Percentage
LSCS	12	4.4
Ventouse delivery	22	8.1
Forceps delivery	31	11.3
Total	65	23.8

Sixty five out of 273 cases had operative deliveries, either abdominal or vaginal making in incidence of 23.8%. Only 12 (4.4%) cases underwent lower segment caesarean section, while 22 (8.1%) and 31 (11.3%) cases underwent Ventouse and Forceps extractions respectively.

TABLE - VII

ANALYSIS OF CAESAREAN SECTION (LSCS)

Indications	No.	Percentage
Dysfunctional labour	2	0.73
Malpresentations	2	0.73
Breech - 1		
Oblique lie - 1		
CPD	4	1.50
Cord presentation	1	0.40
Acute foetal distress	1	0.40
Diabetes with pregnancy	1	0.40
Condyloma of vagina	1	0.40
Total	12	4.56

Above table shows the break of LSCS cases. Only 4 (1.5%) cases had cephalopelvic disproportion while malpresentations and dysfunctional labour were present in two cases each. One case had extensive venereal wart filling almost the whole vagina.

Ventouse was applied as a prophylactic measure in 7 (2.6%) cases while in 9

TABLE - VIII
INDICATIONS FOR VACUUM DELIVERIES

Indications	No.	Percentage
Trophylactic	7	2.6
Anaemia - 1		
Heart disease - 1		
Eclampsia - 1		
Hypertensive disorders with pregnancy - 4		
Dysfunctional labour	9	3.3
Deep transverse arrest	3	1.1
Acute foetal distress	3	1.1
Total	22	8.1

(3.3%) cases for prolonged dysfunctional labour. There were 3 cases of occipito posterior arrest in second stage.

TABLE - IX

INDICATIONS FOR FORCEPS DELIVERIES

Indications	No.	Percentage
Prophylactic	11	4.00
Anaemia - 2		
Heart disease - 1		
Hypertensive disorders with pregnancy - 8		
Dysfunctional labour	12	4.40
Deep transverse arrest	2	0.73
Acute foetal distress	6	2.20
Total	31	11.33

Prophylactic outlet forceps were applied in 11 (4.0%) cases while forceps were indicated in 12 (4.4%) cases for prolonged dysfunctional labour and 2 (0.73%) cases for occipitoposterior arrest following manual rotation. There were 6 (2.2%) cases of acute foetal distress where outlet forceps were applied.

Discussion

Recognition of the high risk nature of

adolescent pregnancy is a relatively recent development. Numerous surveys have been conducted to detect and describe this risk and to determine what factors are responsible. The results have not been entirely conclusive. Statistics and observations presented in many reports are at variance with the results of the other studies.

Research to identify risk factors in the pregnant adolescent have shown an increased risk of anaemia, pregnancy induced hypertension, premature delivery, stillbirth, cephalopelvic disproportion and operative deliveries. The increased risk of pregnancy-induced hypertension is significant especially if the pregnancy occurs within 24 hours of menarche. The increased incidence of cephalopelvic disproportion in women under age 15 is related to relative skeletal immaturity of the pelvis, leading to a higher incidence of caesarean delivery, an operation known to be associated with greater morbidity in the mother. Pregnant adolescents are also more susceptible to experiencing abnormal labour pattern with prolonged or precipitate labours. Pregnant adolescents may also experience incidence of PPH and infection (Rivlin et al 1978).

Contrary to the above reports, Rochester adolescent maternity project has found no significant increase in high risk factors in women age 15-17 years (Macnarney 1978). Recent studies indicated that good parental care and attention to the psychosocial and economic problems of pregnancy reduce the perinatal death and complication rate for pregnant teenagers (Ryan and Scheider 1978). Duenhoelter et al (1975) studied 471 patients under age 15 and compared with a control group 19-25 years age. Perinatal mortality was

30/1000 in the study group and 38/1000 in the control group. Pregnancy induced hypertension and pelvic inlet contraction were the only two pregnancy complications to occur more frequently in the younger group.

The present study based on 273 teenager delivered at the Command Hospital, Pune between January 1980 to December, 1982. The incidence of teenager pregnancy in the present series was 7.6%. The same incidence was also observed by Isreal and Woutersz (1963).

The majority of patients were primipara (54.1%) and maximum parity seen in this series upto para give in 5 (1.8%) cases. The reason for multiparity at a younger age in India is due to the early marriage and lack of contraceptive use in lower socio economic group.

The risk factors identified during the antepartum period are listed in Table III. As expected, hypertensive complications was most frequent 34 (12.5%) risk factors. The other risk factors were not remarkable in their occurrence as compared to other age groups.

The incidence of pregnancy-induced hypertension in the present series was 10.2% which included also two cases of Eclampsia were admitted as unbooked cases. Marchetti and Menaker (1950) were of the opinion that an underdeveloped endocrine system rather than little prenatal care is the basis for the frequency of toxemia.

Complications noted at labour and delivery are presented in Table V and VII. The most frequent complication noted was dysfunctional labour in 32 (11.7%) cases, while other complications were no different from what reported from other age

groups. There were 3 (1.1%) cases of traumatic PPH and all were due to cervical tears resulting from Midcavity forceps deliveries.

Incidence of operative deliveries (Table VI) in the present series was high 65 (23.8%) as compared to the reported figures with other age groups. Though the caesarean section and ventouse extractions rate were only 4.4% and 8.1% which were consistent with overall incidences from our general population, the incidence of forceps deliveries were 11.3% higher than reported with other age groups. Bochner (1962) also reported 3% incidence of LSCS in their teenagers. In the present series only 4 cases had cephalopelvic disproportion. Poliakoff (1958) and Sen (1974) reported still birth incidence of 5.9% and 6.0% respectively from their series.

Summary

Total 273 Teenager pregnancies were studied at Command Hospital, Pune during the year January 1980 to December, 1982.

1. Incidence of Teenage pregnancy was 7.6%.
2. Some abnormality was observed either in pregnancy or in labour 46.2% of teenage pregnancy.
3. Primipara were 54.1% and 1.8% were grandmultis.
4. Pregnancy - induced hypertension was

found to be the most frequent complication (10.2%) during pregnancy.

5. Dysfunctional labour constituted the most frequent intrapartum complication.
6. Incidence of anaemia, cephalopelvic disproportion, premature labour and perinatal mortality were no different from general population.
7. Incidence of operative delivery (abdominal and vaginal) was higher (23.8%).

Conclusion

The adequate prenatal care received by the 76.6% teenager in the present series had a significant effect on the maternal and perinatal outcome.

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